# Training Schedule

**Week 1:**

- **Introduction to IoT**
  The Internet of Things Today, Time for Convergence, Towards the IoT Universe, Internet of Things Vision, IoT Strategic Research and Innovation Directions, IoT Applications, Future Internet Technologies, Infrastructure, Networks and Communication, Processes, Data Management, Security, Privacy & Trust.
- **Introduction to Programming**
  Introduction to Arduino Programming, MCU microcontroller, Pin diagram and functionality, Peripheral programming – Displays, ADC, UART, SPI, Wi-Fi, Bluetooth, $I^2C$ etc.
- **IOT programming using MCU**
  introduction to Embedded programming, Integration of Sensors with Arduino and send data to cloud.

**Week 2:**

- **Hands-on session**
  Timer based LED Toggling, transmitting a string and Controlling LEDs blinking pattern through UART,Digital IO configuration, On-chip Temperature measurement through ADC, Interfacing with Raspberry pi/Arduino board/Ubisense, $I^2C$ protocol, Reading Temperature and Relative Humidity value from the sensor, Reading Light intensity value from light sensor,Generation of alarm through Buzzer.

- **Case Studies(IoT in Agriculture)**
  Real-life IoT project & technologies which are developed and deployed at fields i.e., irrigation scheduler, automatic water pumping system for crops/fields.

## Course Summary

This course offers a comprehensive exploration of Agriculture Automation with IoT, delivering a blend of theoretical and hands-on knowledge. Participants will acquire proficiency in IoT fundamentals, programming interfaces, and practical applications through case studies. Upon completion, ITEC participants will be equipped to implement these technologies in their respective countries, enhancing agricultural production